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		ART UNIT		PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/840,129

**Applicant(s)**

HEIDEL, RAYMOND

**Examiner**

JEFFREY A. SHAPIRO

**Art Unit**

3653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 3/22/11.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 26, 27, 29, 30 and 34-49 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 26, 27, 29, 30 and 34-49 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-152)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB-08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/15/10 has been entered.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 26, 27, 29, 30 and 34-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Billington et al (US 6,390,269 B1) in view of Gerlier (US 5,076,441) and further in view of Weston et al (US 5,499,944).

As described in Claims 26, 27, 29 and 34, Billington discloses a vending machine (1) that has both a bill validator (100) and a coin validator (110) that are both controlled by controller (130).

Billington discloses vending products in return for currency inserted into the machine at col. 8, lines 28-63.

(29) FIG. 4 illustrates a vending machine 1 which contains a variety of products 10 to be dispensed which are stored in an area inaccessible to customers, such as behind a glass panel. Each product 10 is retained by a product delivery apparatus 20 which is selectively actuatable to dispense the product into a delivery area 30 that is accessible to the customer. Suitable product delivery apparatus 20 includes vend motors and solenoids as well as others well known in the art. Examples of such apparatus include those described in U.S. Pat. Nos. 4,458,187 and 4,785,927, which are hereby incorporated by reference.

(30) A control panel 40 of the vending machine 1 contains a coin slot 50 and a banknote or bill insert slot 60 which accept currency to initiate a vend operation. The control panel 40 further contains the card acceptor 70 to enable customers to initiate a transaction with a credit or debit card. In addition, an electronic purse device in the form of a card may be inserted into the card acceptor 70 to initiate a transaction. The term "electronic purse device" is used herein to denote a token or card possessing an electronic circuit, a magnetic strip or other data storing medium or circuitry, for retaining a credit value. An electronic purse device may be in one of a variety of shapes, including a key or coin, as well as a card. Such devices may be used as currency in a variety of conventional automatic transaction systems.

(31) A coin return 80, a bill pay out recess 85 and an item selector such as a keypad 90 are also provided in the control panel 40. A display 95 on the control panel 40 provides instructions and information to the customer. Suitable displays 95 include dot-matrix displays, selectively activatable message lights, an electronic scrolling message, or other displays capable of operating in the environmental conditions to which automatic transaction systems are typically exposed.

Thus, as described in Claims 26, 27, 29 and 34,, Billington discloses a host machine (1) that vends commercial products having a housing that secures the commercial products to be vended, as illustrated in figure 4. Billington further discloses a coin dispenser (110), a note acceptor dispenser (100). This note acceptor (100) accepts authentic currency notes, determines the denomination and generates credit

signals reflecting the denomination of the note, as mentioned at col. 9, lines 39-53, and specifically lines 49-53.

(36) The first port P1 of the changer is connected to the vend controller 130 by the communication line C. The card acceptor 70, bill escrow and pay out unit 115, and bill validator 100 are not connected directly to the vend controller 130, but are connected to the second port P2 of the changer 110 via the bus connectors B. The changer 110 is arranged to receive various items of information received on the second port P2 from the bill validator 100, bill escrow and pay out unit 115 and card acceptor 70, and to pass this information, either as received or in modified form, to the controller 130. In particular, each time an acceptable unit of money is validated by either the bill validator 100 or the changer 110, a signal is sent to the vend controller 130 by the changer 110 indicating the value of the received unit.

Billington discloses a host processor in the form of controller (130). Again, note that Billington discloses determining if a credit signal represents sufficient tender to pay for a selected item to be vended and, if sufficient credits have been received, cause the dispensing of the selected commercial product, determine the difference between the amount represented by the credit signal and the cost of the vended item to determine the amount of change to be dispensed and generated a dispense change instruction directed to said note acceptor dispenser validator system.

Billington further discloses providing change in the form of either coins or bills at col. 8, line 63-col. 9, line 8. Specifically note the last three lines.

(32) A customer may initiate a transaction by depositing coins or bills of particular denominations in the slots 50 or 60, respectively. The customer may also insert an electronic purse device, or a debit or credit card in the card acceptor 70 to initiate a transaction. Once sufficient payment has been deposited in the automatic transaction system 1, the customer may select a

product 10 to be dispensed using the keypad 90. The corresponding product delivery apparatus 20 will then dispense the selected product 10 to the product delivery area 30 where it may be retrieved by the customer. Any resulting change from the transaction may be paid out through a coin return 80, the bill pay out recess 85 or credited to an inserted electronic purse device.

This passage also is considered to include disclosing that the note acceptor dispenser system is further configured to accept said dispense change instruction from said host processor (130), and based upon the dispense change instruction, determine how the dispensing of notes by said note acceptor dispenser and coins by said coin dispenser can be combined to dispense the appropriate amount of change as a combination of notes and coins based on the communication with host processor (130).

Further regarding Claims 26, 27, 29 and 34, Billington mentions that the validator/bill changer/dispenser (100) has a bill escrow (115), which is construed as a note hopper/change dispenser, in addition to the bill stacker (105) which is construed as a note box configured to receive and hold notes received by said note validator. See Billington at col. 9, lines 20-29. Billington also discloses that a possible bill escrow and payout unit are described in Gerlier, at Billington, col. 9, lines 26-29.

(34) A bill escrow and pay out unit 115 is positioned adjacent the bill pay out recess 85 and is connected to the bill validator 100. The bill escrow and pay out unit 115 is capable of dispensing bills as change through the bill pay out recess 85. The bill validator 100 may divert deposited acceptable bills to the bill escrow and pay out unit 115 to replenish its supply of bills for change. Suitable bill escrow and pay out units 115 include those disclosed in U.S. Pat. No. 5,076,441, as well as others well-known in the art. The cash box 120 is also included in the vending machine 1.

Regarding Claims 26, 27, 29 and 34, Billington does not expressly disclose, but Gerlier discloses that the note validator has sensors for sensing data relating to authenticity, denomination, type and condition of notes received by the validator, said note validator generating signals corresponding to the sensed data for each received note at Gerlier, col. 4, line 59-col. 5, line 20.

(15) The testing device 8 optically and/or magnetically scans a printed image on at least one side of the banknote 2. The recorded pattern is compared with a predetermined set of stored pictures of the banknotes 2 to be accepted and in this way the testing device 8 ascertains the unit denomination, the type and the orientation of the banknote 2.

(16) Damaged or counterfeit banknotes or those which cannot be identified as well as denominations which are not included in the predetermined set are classified as non-identifiable items as if they were blank paper of matching size.

(17) It is advantageous also to determine the length and the width of the banknote 2, since this information limits considerably the number of denominations belonging to the predetermined set having to be recognized by the device 1 and thus expedites the identification of the banknote type. A further, advantageous shortening of the testing period for a banknote 2 is achieved if the testing device 8 which scans the banknotes 2 in both processes decides on the basis of this process of measuring whether the result of the optical or of the magnetic scanning is to be evaluated.

(18) Another embodiment of the testing device 8 monitors the thickness of the conveyed items which can be measured mechanically, for example, or by means of an optical determination of the transparency of the banknote 2. The monitoring of the thickness prevents two or more banknotes 2 lying on top of each other from being accepted.

(19) Each test result is transmitted to the control mechanism 12 by means of a value signal. The value signal determines in the control mechanism 12 the path of the item in the conveying system of the device 1 and its destination.

Gerlier col. 5, lines 20-25 discloses that the validator processor (12) receives and compares said sensed data signals with stored data to validate said notes.

(19) Each test result is transmitted to the control mechanism 12 by means of a value signal. The value signal determines in the control mechanism 12 the path of the item in the conveying system of the device 1 and its destination.

Gerlier further discloses more information regarding a note box configured to receive and hold notes received by the note validator and a note hopper/change dispenser for receiving and storing up to a selected number of notes of a pre-selected denomination which are received by said note validator at col. 6, lines 1-21 of Gerlier.

(26) Upon a command issued by the control mechanism 12 for the delivery of a banknote 2, the mechanism in the till head 33 of the second till 10 introduces the uppermost banknote 2 of the till stack 34 into the till switch 14. Via connecting path 25 and the conveyor 24 this banknote 2 is conveyed to the testing device 8. If the banknote 2 is of a denomination suitable for delivery, the switches 16 and 15 guide the banknote 2, as it is conveyed out of the testing device 8, into the delivery path 26. If however the banknote 2 is not of a denomination suitable for delivery, said banknote 2 is guided back into the first till 9 by means of the switches 16 and 15. This process of restacking is continued until all the denominations suitable for delivery have been introduced into the delivery path 26. The advantage of this restacking process is demonstrated in a simple and low-cost embodiment of device 1, since only one single banknote stockpile of the kind described above is needed to store deposited banknotes 2 in a predetermined set of denominations and/or to deliver banknotes 2 of predetermined denominations.

Gerlier further discloses a transportation unit as illustrated in figures 1-3 of Gerlier, including elements (19, 21, 22, 24, 26, 27, 28) for transporting said notes past said sensors and for directing said notes determined to be authentic to one of said note box and said note hopper/change dispenser in response to an instruction from said validator processor. See Gerlier col. 2, line 59-col. 4, line 58.



(2) In FIG. 1, the reference 1 designates a device for the mechanical acceptance and delivery of banknotes 2 of different denominations (different nominal values in at least one currency), 3 designates an input opening, 4 a delivery opening, 5 a return receptacle, 6 a separator, 7 an orientation path, 8 a testing device, 9 a first till, 10 a second till, and 11 a turning device for orienting the banknotes.

(3) A control mechanism 12 is connected to the components of the device 1 by means of circuits which are not shown here for the sake of greater clarity in the drawing, e.g., it is connected to the testing device 8, to a banknote stockpile described further below, to first and second till switches 13 and 14, to a delivery switch 15, and to a return switch 16.

(4) Each switch 13 to 16 is provided with a drive device which is influenced by the control mechanism 12, such as an electric motor, a pulling solenoid, etc., which switches the path of the banknote 2 in each of the switches 13 to 16 from its input to one or the other of its two branches. The control mechanism 12 selects one of the predetermined paths of the banknote 2 as a function of the signals and information it receives and switches the orientation of the switches 13 to 16 into a predetermined position.

(5) Sensors (not shown here) of the control mechanism 12 serve to monitor path segments and to control drive motors (not shown) of a conveying system of the device 1. The drive motors are switched on and off as needed by the control mechanism 12 and, with the exception of the turning device 11, cannot be switched over in normal operation.

(6) The control mechanism 12 also exchanges information via a bidirectional data path 17 with I/O devices 18 which are symbolically represented by one single rectangle. Several devices 18 are either set up separately or are installed in the same housing as device 1. The conveying system of the device 1 comprises in a first embodiment a first conveyor belt 19, a second conveyor belt 20, a conveying path 21, a conveying path 27 and a return path 28. These are indicated in the drawing only by a broad line for the sake of greater clarity. Arrows drawn parallel to these lines indicate the conveying direction wherever this is required for greater clarity. The switches 13 to 16 and three inlets 29 to 31 are also part of the conveying system.

(7) The above-mentioned banknote stockpile stores banknotes 2 of all predetermined denominations which have been accepted by the device 1 and delivers them upon demand. In a first embodiment, the banknote stockpile comprises two essentially identical tills 9 and 10, the till switches 13 and

14, the second conveyor belt 20, the belt conveyor 23, the connecting path 25, and the third inlet 31. Each till 9 and 10 has a till input 32, a till head 33 and the till switch 13 or 14 at the outlet. A mechanism (not shown) in each till head 33 deposits the banknote 2 which arrives through the till input 32 onto a till stack 34. A spring, for example, presses the till stack 34 against the mechanism in the till head 33 so that it may accept the uppermost banknote 2 from the till stack 34 and may introduce it into the input of the till switch 13 or 14. Only in the second till 10, shown schematically in cross-section, are reference numbers provided for the till head 33 and for the till stack 34.

(8) The conveying system comprises an arrangement of endless, parallel running belts which go over rollers, cylinders, guiding plates, drive motors and additional elements known in conveying technology. The cylinders and rollers all rotate around axes which are perpendicular to the drawing plane in FIGS. 1 to 3, for example.

(9) The conveying system conveys sheet-like items within a preselected range of dimensions, such as banknotes 2 of different denominations. The items are held between conveying belts arranged in pairs or between belts and cylinders and are conveyed from the input opening 3 through the testing device 8 to the input of the banknote stockpile, from an output of the banknote stockpile through the testing device 8 to the delivery opening 4, from the testing device 8 to the return receptacle 5, or from the output of the banknote stockpile back to its input when restacking is required.

(10) The conveying path 21 extends from the separator 6, which is placed directly behind the input opening 3, through a first inlet 29 and the orienting path 7 to the testing device 8.

(11) An output of the testing device 8 leads into the input of the return switch 16. The conveying path 22 connects a branch of the return switch 16 through the turning device 11 to an input of the second inlet 30, while a second branch of the return switch 16 extends via the return path 28 to the return receptacle 5.

(12) One branch of each till switch 13 or 14 of the tills 9 and 10 is connected by the conveyor belt 20 or by the belts 19 and 27 to the till input 32 of the other till 10 or 9. The belt conveyor 23 and the connecting path 25 constitute the two other branches of the till switches 13 and 14, and lead into the third inlet 31 going to the conveyor 24. Conveyor 24 extends from the output of the third inlet 31 to one of the inputs of the first inlet 29. The first inlet 29 makes it possible to introduce the banknotes 2 from the conveyor 24 into the conveying path 21 which conveys the sheet-like items through the orienting path 7 to the testing device 8.

(13) The first conveyor path 19 goes through the second inlet 30. The conveying path 22 leads towards first till 9 via second inlet 30 where it meets with the first conveyor path 19. At the end of the first conveyor path 19, there is the delivery switch 15, one branch of which leads via conveyor belt 27 into the till input 32 of the first till 9, and the other branch of which, designated delivery path 26, leads to the delivery opening 4.

(14) A user of the device 1 can learn from an instruction board, for example, which types of banknotes 2 are recognized by the device 1. The user places one or several of these banknotes which must merely be aligned according to their outer configuration into the input opening 3. The banknotes 2 may be mixed randomly and comprise, for example, several denominations and/or issues of different banknote-issuing institutions. The device 1 is therefore suitable as a banknote changer, e.g. in areas near a country border or in international airports and railroad stations where banknotes of other countries are frequently in circulation. Upon a command of the control mechanism 12 the separator 6 seizes for instance the lowest banknote 2 in the input opening 3 and introduces it into the conveying path 21. The banknote 2 travels through the first inlet 29 and into the orienting path 7. The orienting path 7 orients for example the long side of banknote 2 so that it is exactly parallel to the conveying direction of the conveying path 21 and transmits the oriented banknote 2 to the testing device 8. As soon as the conveying path 21 is free and at least one additional banknote 2 is present in the input opening 3, the separator 6 introduces the next banknote into the conveying path 21.

Regarding Claims 30 and 35, Gerlier discloses that the validator determines the value of notes dispensed by said note acceptor-dispenser prior to their being dispensed. See above discussions and citations concerning Gerlier.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to have embodied Gerlier's note validator mechanism in Billington's vending machine since Billington specifically mentions incorporating such a note validator at Billington, col. 9, lines 26-29.

Also, although not claimed, note that Gerlier discloses an automated teller machine (ATM) function at Gerlier col. 5, lines 52-64.

(24) Thus, for example, the device 1 can issue the user by means of one of the devices 18 with a receipt for the money deposited and can credit the deposited amount to his account, the number of which is entered by means of a keyboard of one of the devices 18, not shown here, in accordance with a display. Conversely, the user can also withdraw an amount from his account by means of the device 1 or can exchange the banknotes 2 deposited through the input opening 3 into others banknotes. When another service is to be rendered, the device 1 can accept the banknotes 2 for payment, cause the service to be rendered and return whatever change is due on the banknotes.

Regarding Claims 26, 27, 29, 30 and 34-49, Billington discloses the apparatus as described above.

Regarding Claims 26, 27, 29, 30 and 34-49, Billington does not expressly disclose, but Weston discloses allocating notes based upon the denomination of the notes as well as the amount of notes in each of the banknote storage areas. Weston discloses in lines 5-10 of col. 1, allocating both coins and notes. Weston discloses allocating banknotes amongst storage areas based upon thresholds maintained in a vending machine, for example, for the purpose of maintaining the ability to dispense banknotes as change as well as coins as change upon receiving banknotes during a transaction. See Weston, col. 2, line 10-col. 3 line 23 and figure 3.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to have incorporated a banknote allocation algorithm, as taught by Weston, in

Billington's banknote and coin processing apparatus within a vending machine for the purpose of maintaining currency items of sufficient quantities available as change. See Weston, col. 2, lines 10-16.

***Response to Arguments***

4. Applicant's arguments with respect to Claims 26, 27, 29, 30 and 34-49 have been considered but are moot in view of the new ground(s) of rejection.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY A. SHAPIRO whose telephone number is (571)272-6943. The examiner can normally be reached on Monday-Friday, 9:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stefanos Karmis can be reached on (571)272-6744. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeffrey A. Shapiro/  
Primary Examiner, Art Unit 3653

May 7, 2011